

IN THE SPECIFICATION:

Please delete the section heading, SUMMARY OF THE INVENTION, from between paragraphs 0013 and 0014 and insert that section heading after paragraph 0014.

Please delete the section heading, BRIEF DESCRIPTION OF THE DRAWINGS, from between paragraphs 0017 and 0018 and insert that section heading after paragraph 0018.

Please amend Equation 10 at page 18 as follows:

$$\cancel{X \rightarrow X + G(\hat{X} - HX)}$$

$$\underline{X \rightarrow X + G(\hat{X} - HX)}$$

Please replace paragraph 108 at page 21, with the following amended paragraph.

At step S38, keyframe selector 60 calculates a score representing the total relative positional uncertainty of the tracked features in the current frame. More particularly, in this embodiment, keyframe selector 60 calculates an uncertainty score as follows:

$$\text{Relative uncertainty score} = \sum_{\substack{n \text{ lowest} \\ \text{relative} \\ \text{uncertainty} \\ \text{values}}} \min \left\{ \frac{\sigma_i^2}{|\underline{d}_i|^2}, (\sigma_{\max}^{(r)})^2 \right\} \quad \dots(19)$$

where: σ_i^2 is the measurement variance of the position of the “i”th feature point (corner in this embodiment) given by equation (14) above;
 \underline{d}_i is the disparity vector of the “i”th feature point defining the movement of the position of the point from the previous keyframe to the current frame;

$\frac{\sigma_i^2}{|d_i|} \frac{|d_i|^2}{|d_i|} \sigma_i^2 / |d_i|$ is the relative uncertainty value for the “i”th feature point;

$(\sigma_{\max}^{(r)})^2$ represents an upper threshold on the relative uncertainty, and is set to 40 in this embodiment;

$\min \{ \frac{\sigma_i^2}{|d_i|} \frac{|d_i|^2}{|d_i|} \sigma_i^2 / |d_i|, (\sigma_{\max}^{(r)})^2 \}$ is the minimum of $\frac{\sigma_i^2}{|d_i|} \frac{|d_i|^2}{|d_i|} \sigma_i^2 / |d_i|$ and

$(\sigma_{\max}^{(r)})^2$ (so that the maximum relative uncertainty value that a point can

contribute to the summation is $(\sigma_{\max}^{(r)})^2$; and

the summation is carried out for the lowest “n” relative uncertainty values of points which were present in the preceding keyframe as well as the current frame (so that d can be calculated), “n” being set to 100 in this embodiment. If there are less than “n” tracked feature points which are present in both the current frame and the preceding keyframe, then the relative uncertainty score is

calculated by adding the values $\min \{ \frac{\sigma_i^2}{|d_i|} \frac{|d_i|^2}{|d_i|} \sigma_i^2 / |d_i|, (\sigma_{\max}^{(r)})^2 \}$ for the “m”

existing points which are present in both frames and (n-m)

maximum $\times (\sigma_{\max}^{(r)})^2$ (that is, (n-m)×40 in this embodiment).